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Author(s)	Adulyanukosol, Kanjana; Ruangkaew, Wannasa
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SEA TURTLE STRANDING RECORDS IN THE ANDAMAN COAST, THAILAND

Kanjana Adulyanukosol and Wannasa Ruangkaew

*Phuket Marine Biological Center,
P.O. Box 60, Phuket 83000*

ABSTRACT

214 stranded sea turtles have been recorded from the Andaman sea coast of Thailand since 1991. There were 157 hawksbill turtles (*Eremochelys imbricata*), 26 olive ridley turtles (*Lepidochelys olivacea*), 25 green turtles (*Chelonia mydas*), 4 leatherback turtles (*Dermochelys coreacea*) and 2 unidentified species. 61.7% of stranded specimens was washed ashore by unknown course, 26.2% was by gill nets, 5.1% by hands and the left 7% by miscellaneous fishing gears. Basic rescues have been done to sick or injured turtles such as wound treatment, feeding with food and vitamin. After recovery, they were released to the sea. The dead animals were inspected for the disease symptoms.

Key words: sea turtle, stranding, incidental catch, Andaman Sea

INTRODUCTION

Five species of sea turtles have been recorded in Thai waters: leatherback turtle (*Dermochelys coreacea*), green turtle (*Chelonia mydas*), hawksbill turtle (*Eremochelys imbricata*), olive ridley turtle (*Lepidochelys olivacea*) and loggerhead turtle (*Caretta caretta*) (Phasuk and Rongmaugsart, 1973). The loggerhead turtle is believed to be extinct from Thai waters (Chantrapornsyl, 1993).

In the Andaman sea coast, the number of nesting sea turtles are dramatically declined, caused by many factors such as fishing activities, eggs poaching, and tourism developing.

specimens" refers to the incidental catches, which includes turtle discarded alive, turtle discarded dead, and turtle slaughtered for consumption. It's difficult to get the information of captured dead turtle and turtle slaughtered for consumption. Since 1991, 214 stranded sea turtles have been recorded from the Andaman sea coast of Thailand. The carapace size and weight of the turtles were measured. The types of fishing gears were recorded and basic rescues have been applied to the wounded turtles. After recovery, they were returned back to the sea while the dead turtles were dissected and analyzed the symptom disease.

MATERIAL AND METHODS

Generally most of the stranded specimens in this report were the incidental captured alive turtles and some of them were dead when arrived. The term "stranded

RESULTS

The stranded sea turtles were collected from 5 provinces along the Andaman Sea coast (Phang-nga, Phuket, Krabi, Trang and Satun); most of them were caught in the coast of Phuket Province and the islands

nearby (Fig. 1). Since the Phuket Marine Biological Center locates in Phuket, so it's not hard to get the specimens. Almost all of incidental captured turtles were juveniles and could not be identified the sex. Only 1 green, 2

hawksbill, and 4 olive ridley turtles were mature and 4 females leatherback turtle. The average sizes were shown in Table 1.

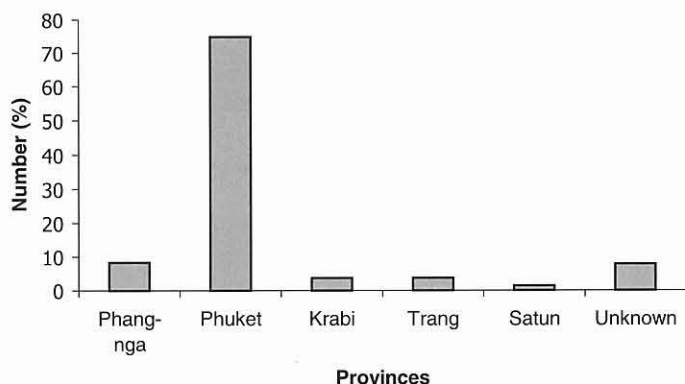


Fig. 1 The percentage number of sea turtles captured in 5 provinces off the Andaman Sea coast.

Table 1. The mean width and length of carapaces and mean weight of the incidental captured specimens.

Species	Width (mean(S.D.) (cm)	Length (mean(S.D.) (cm)	Weight (mean(S.D.) (kg)
<i>Eremochelys imbricata</i>	38.75(23.96 (N=144)	42.25(9.16(N=146)	6.5(6.97(N=146)
<i>Lepidochelys olivacea</i>	35.38(6.94(N=10)	34.5(41.22(N=11)	6.74(9.31(N=16)
<i>Chelonia mydas</i>	40.83(29.58(N=20)	42.01(29.56(N=22)	6.97(8.96(N=16)
<i>Dermochelys coreacea</i>	-	-	app. 300

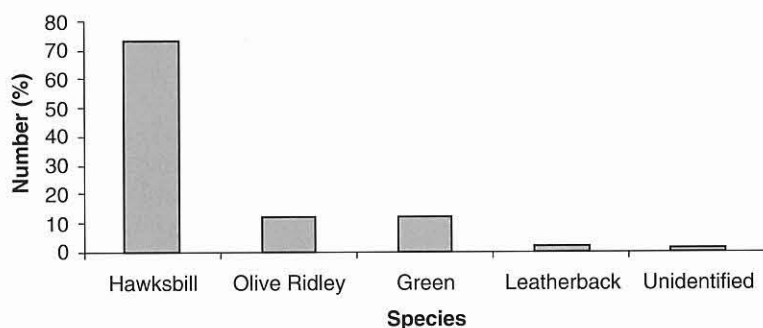


Fig. 2 The species of sea turtles and percentage number of 214 strandings since 1991.

Among 214 stranded sea turtles, there were 157 hawksbill turtles (*E. imbricata*), 26 olive ridley turtles (*L. olivacea*), 25 green turtles (*C. mydas*), 4 leatherback turtles (*D. coreacea*) and 2 unidentified species (Fig. 2).

Two peaks of strandings in 1993 and 1995 were 48 and 46 turtles, respectively. The small numbers of strandings (<10 turtles per year) were found in 1991 (3 ind.), 1999 (9 ind.) 2000 (6 ind.), and 2001 (2 ind.). The annual number of stranded sea turtles from 1991-2002 shows in Fig. 3.

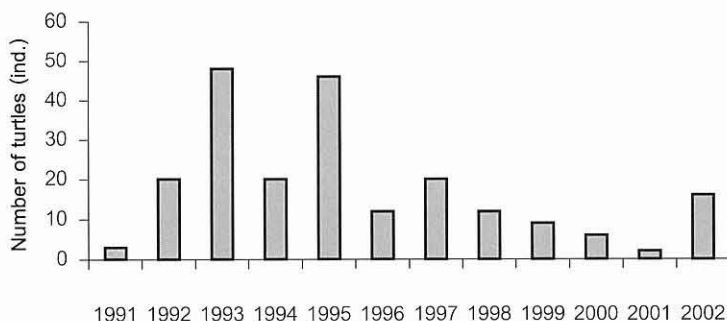


Fig. 3 Annual number of stranded sea turtles from 1991-2002

61.7% of stranded specimens was washed ashore by unknown course, 26.2% was by gill nets, 5.1% by hands and the left 7% by miscellaneous fishing gears (e.g. crab trap line, hook and line, discarded net floating in the sea) (Fig. 4, 5(a,b)).

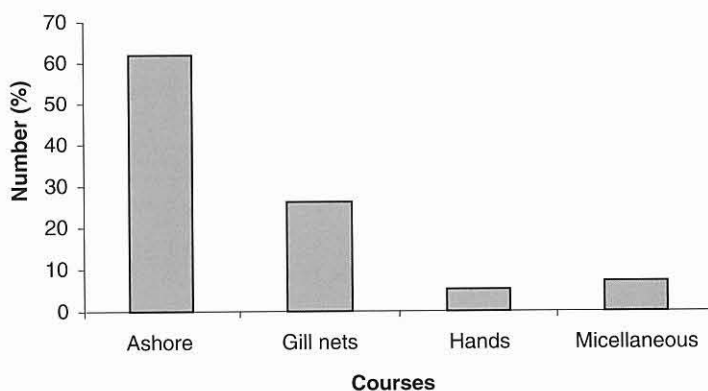


Fig. 4 The percentage number of stranded sea turtles and causes of incidental captures.

Basic rescues have been applied to sick or injured turtles such as wound treatment, feeding with food and vitamin. Some turtles were seriously hurt by net and the flipper did not function, so its flipper was cut off (Fig.

5c). After recovery, they were tagged with the plastic tags before releasing to the sea (Fig. 5d). Turtles without fore limbs have been still rearing in the captivity. The dead animals were inspected for the disease symptoms.

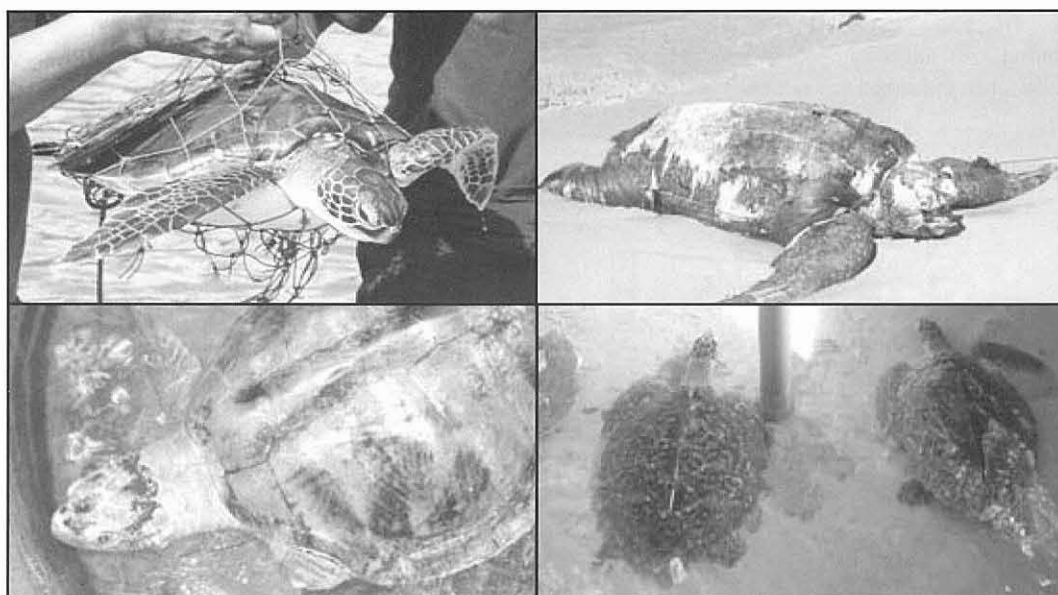


Fig. 5a) A juvenile green turtle was trapped by net from Phang-nga Province, b) A female leatherback turtle died from the crab trap line at Taimuang beach, Phang-nga province, c) An olive ridley turtle lost the left flipper after being trapped in the net, and d) A plastic tag was tagged to the turtle before returning back to the sea.

DISCUSSION

Little attention has generally been paid to the reducing pressure on wild populations of sea turtles arising from incidental capture and mortality chiefly in connection with fishing activities. In the Atlantic sea, the methods of sea turtle capture included gill net, pound net, shrimp trawl, shark net, turtle net, fish weir, beach seine, trammel net, hook and line fishing, spear gun, and long line. Green, loggerhead, and hawksbill sea turtle were listed most frequently as species incidentally captured in the Wider Caribbean region. 59 olive ridley turtles were caught in shrimp trawls. Leatherbacks were also reported to be captured in Virgin Island, Mexico and the United States (Wiber, 1989).

This report might be the first report of stranded sea turtle in this region. Interestingly, the olive ridley turtle was the most abundant species in the Andaman Sea but the major incidental catch was the hawksbill turtles. Unlike other species of marine turtles, the hawksbill nests diffusely throughout its range, with few known nesting aggregations. This diffuse distribution and the fact that nesting may occur for six or even nine months of the year at some locations make this species one of the most difficult to study (Wiber, 1989). The nesting area of hawksbill is only reported at Surin Island off the Phang-nga coast (Chantrapornsyl, personal communication, 2002). The Andaman Sea might be one of the major of feeding ground of hawksbill juveniles. The information of nesting

and feeding areas including the migration of this species in the Andaman sea coast and neighboring countries is necessary for the conservation and management.

Recently, Dr. Nantarika Chansue from Veterinary Medical Aquatic Animal Research Center, Faculty of Veterinary Science, Chulalongkorn University in Bangkok would like to put either an internal or external prosthesis to the crippled turtles in order to make them swim well and have the lives as normal turtles.

Wiber (1989) suggested that several types of information must be gathered beyond general information on incidental capture such as 1) type of gear used in a country's fisheries, 2) means and locations of deployment of this gear, 3) target species, 4) level of fishing effort seasonally, 5) incidental catch, sea turtle capture and mortality (species, sex and age of captured animals, fate of turtle (e.g. returned alive, returned dead, consumed)). In order to minimize impacts both on the fisheries and wild turtle populations it is necessary to collect more information on the incidental catches of sea turtles including the history of captures from the fishermen both local fishery and commercial fishery. Tagging programs of the hawksbill and olive ridley turtles are also required for the knowledge of migratory habitats and patterns. In addition it's necessary to create rescue centers of stranded sea turtles in Thailand to diminish the death caused by injuries and diseases.

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